

REMARKS

OVERVIEW

Claims 1-29 are pending in the present application. The Examiner has restricted out claims 30-32. Therefore, these claims are cancelled without prejudice. The present response is an earnest effort to place all claims in proper form for allowance. Reconsideration and immediate passage to issuance are respectfully requested.

ELECTIONS/RESTRICTIONS

The Examiner has made a final election/restriction requirement, restricting out claims 30-32. Therefore, these claims have been cancelled without prejudice.

REJECTIONS UNDER 35 U.S.C. § 103(a)

Claims 1-4, 10-12 and 16-18 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Sasago et al. (U.S. Patent 4,745,042) in view of Loesch et al. (U.S. Patent 6,231,668).

Applicants respectfully traverse this rejection.

Sasago et al. (col. 18, lines 7-40; Figures 7A-7D) teaches a method for making features on a semiconductor substrate. Steps (parent structure) are formed on a semiconductor substrate. An aluminum film is then evaporated over the steps and substrate. A water-soluble photopolymer is applied over the aluminum layer. A positive type UV resist is applied on the photopolymer. The layered structure is exposed to UV rays. The irradiated positive type UV resist is developed and removed in an alkaline developing solution. The exposed photopolymer film is removed in the rinsing process resulting in a patterned surface. The aluminum unprotected by unexposed UV resist and photopolymer layers is selectively removed leaving a residual structure.

In contrast, claim 1 of the present application requires “overlaying a multilayer organic molecule resist on at least a portion of a parent structure selectively deposited on a substrate.” The aluminum film (or high reflectivity metal film), as taught by Sasago, is not a multilayer organic molecule resist. A metal is not an organic molecule. The aluminum film lacks both the precision and the ease with which the organic layers can be applied; these are key advantages and stated objects of the present invention. See Application, p. 3, line 30-32; p. 4, lines 1-3, lines 10-13.

In another portion of the patent, col. 2, lines 44-59, Sasago teaches another method of making features on a semiconductor substrate. A step (parent structure) is formed on a substrate and covered with an organic photoresist. An inorganic film is applied over the organic film. A thin layer of resist is applied as the top coat. By patterning this top coat of resist layer, a resist pattern is obtained. By dry etching through this resist pattern, an inorganic film pattern is obtained. Through the resist pattern and inorganic film pattern, an organic film pattern is formed by an oxygen plasma.

In both methods of making features on a semiconductor substrate taught by Sasago, referenced by the Examiner, and summarized above, the layer overlaying the parent structures and substrate covers the entire surfaces of both. In contrast, in the present invention, the layer (16 in Figure 2) overlaying the parent structures (12, 14 in Figure 2), does not cover the entire surface of the substrate (10 in Figure 2). The organic molecule resist (16, 18, 20, 22, 23 in Figure 2) overlays the parent structures (12, 14 in Figure 2) and overhangs over adjacent portions of the substrate (10 in Figure 2). Some areas of the substrate (10 in Figure 2), the areas where the residual structure (24 in Figure 4) is eventually formed, are not covered by or overhung by the organic molecule resists. This is explicit in claim 1 because claim 1 requires “removing the

multilayer organic molecule resist to leave a residual structure." If all areas of the substrate were covered by the multilayer organic molecule resist, there would be no residual structure left after removing the multilayer organic molecule resist. Therefore, Sasago simply does not teach all that the Examiner purports that it does.

In addition, specific chemical linkages to the substrate are displaced in the present invention. This differs from the prior art in that the random orientation of resist leads to a multiplicity of linkages that must be broken in order to remove resist at the proper step in the process. This is a further advantage of the molecular method described in the present application. There is no equivalent teaching in Sasago.

Further, in none of the teachings of Sasago is the precision of the structures created governed by the precise and precisely controlled number of (molecular) layers applied. This is a key advantage of the present application over *all* work involving polymer or metallic resists.

Regarding Loesch, it is acknowledged that imaging structures with electron microscopy and scanning probe microscopy is taught. Regarding dependent claims 10-11, as discussed above, Sasago fails to teach the missing limitations of the independent claim 1. Therefore, the combination of Loesch and Sasago does not teach claims 10 and 11.

ALLOWABLE SUBJECT MATTER

The Applicants respectfully acknowledge that the Examiner has already found that claims 5-9, 13-15, and 19-29 contain allowable subject matter. In addition, however, the Applicants respectfully submit that all claims contain allowable subject matter and therefore the Examiner should find them allowable.

CONCLUSION

The Applicants submit that all claims are in proper form for immediate allowance and respectfully request a Notice of Allowance and passage to issuance.

Enclosed please find a check for a one month extension of time. No other fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Respectfully submitted,



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